

CLAIMS

1. Electric network for generation and transmission of electric power, having a power generating part (1), a point of common connection (PCC) for the power generating part, a transmission link (T, W, CAB), a load network (LN), and a reactive power compensating means (2, 2'), the transmission link coupled between the point of common connection and a grid connection point (PGC) at the load network, and the reactive power compensating means coupled to transmission link, *characterised* in that the power generating part comprises at least one wind turbine (111) with an electric generator (113) of induction type, coupled to the point of common connection, and in that the reactive power compensating means comprises a capacitor bank (21) and in parallel coupling to said capacitor bank a controllable inductor (22) having a magnetic core (221), a main winding (222) for alternating current, and a DC-control winding (223) for direct current (I_d), said DC-control winding for control of the magnetic flux set up by the main winding via orthogonal magnetization of the core.
2. Electric network according to claim 1, *characterised* in that the reactive power compensating means is coupled to the point of common connection.
3. Electric network according to claim 1, wherein the transmission link comprises a high voltage step-up transformer (T) with its low voltage side coupled to the point of common connection, *characterised* in that the reactive power compensating means is coupled to said grid connection point at the load network.
4. Electric network according to claim 3, *characterised* in that the power generating part is located off-shore and in that the transmission link comprises a sub-marine cable (CAB).
5. Electric network according to any of the preceding claims, *characterised* in that the load network has a short circuit capacity that is lower than 10 times the rated power of the power generating part.

6. Electric network according to any of the preceding claims, characterised in that the reactive power compensating means comprises a controller (23) for generating the direct current for said DC-control winding in dependence on a voltage (UC, UG) sensed at the reactive power compensating means.

7. Use of a reactive power compensating means (2) for compensation of reactive power in an electric network having a power generating part (1) with at least one wind turbine (11) with an electric generator (113) of induction type, a point of common connection (PCC) for the power generating part, a transmission link (T, W, CAB), a load network (LN), the transmission link coupled between the point of common connection and a grid connection point (PGC) at the load network, and the reactive power compensating means coupled to the transmission link, the reactive power compensating means having a capacitor bank (21) and in parallel coupling to said capacitor bank a controllable inductor (22) with a magnetic core (221), a main winding (222) for alternating current, and a DC-control winding (223) for direct current, said DC-control winding for control of the magnetic flux set up by the main winding via orthogonal magnetization of the core.

8. Use of a reactive power compensating means for compensation of reactive power in an electric network according to claim 7, wherein the reactive power compensating means is coupled to the point of common connection.

9. Use of a reactive power compensating means for compensation of reactive power in an electric network according to claim 7, wherein the transmission link comprises a high voltage step-up transformer (T) with its low voltage side coupled to the point of common connection and wherein the reactive power compensating means is coupled to said grid connection point at the load network.

10. Use of a reactive power compensating means for compensation of reactive power in an electric network according to claim 9, wherein the power generating part is located off-shore and wherein the transmission link comprises a sub-marine cable (CAB).

11

11. Use of a reactive power compensating means for compensation of reactive power in an electric network according to any of claims 7-10, wherein the load network has a short circuit capacity that is lower than 10 times the rated power of the power generating part.

5

10

15

20

25

30

35

BEST AVAILABLE COPY